S/N 09/338,045
Docket: GB919980092US1

IN THE CLAIMS:
Please revise the claims to read as follows:

1-30. (Canceled)

31. (Previously presented) A method of managing an object in a thread stack based garbage collected virtual machine, said method comprising:

storing an object data structure in the thread stack comprising a reference to the object and a reference to a previously stored object data structure in the stack, whereby the object data structure and the previously stored object data structure form a root set of data object structures;

linking the object data structure to the previously stored object data structure;

storing a variable pointing to the previously stored object data structure at the top of the stack;

using the variable when storing a new object data structure; and

updating the variable with the new object data structure reference.

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32. (Previously presented) A method as claimed in claim 31 further comprising:

saving the variable pointer;

storing the object data structure;

updating the variable with the reference to the latest stored object data structure;

performing the process ; and

restoring the stack pointer.

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33-37. (Canceled)

38. (Currently amended) A method of garbage collecting memory, said memory having

objects, said objects having object <u>pointer structures</u> references in a thread stack, said method

comprising:

 retrieving an object pointer structure from the thread stack;

 extracting, from the object pointer structure, a reference to its corresponding object

and a reference to a next object pointer structure <u>in the thread stack;</u>

 performing said retrieving and said extracting with respect to a next, subsequent and

last object pointer structures, whereby the retrieved object references identify a root set of

objects within the memory; and

 reclaiming the memory not used by the root set of objects.

39. (Previously presented) The method of claim 38, further comprising:

 compacting the root set of objects so that they are contiguous in memory and updating

all object pointers and references in the thread stack.

40. (Currently amended) A method of garbage collecting memory, said memory having

objects, said objects having <u>an</u> object ~~references~~ <u>reference within an object pointer structures</u>

<u>references</u> in a thread stack, said method comprising:

 storing object pointer structures in the thread stack, each object pointer comprising a

reference to an object and a reference to a subsequent object pointer <u>structure</u> in the thread

stack such that the object pointer structures are a linked list;

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and-identify identifying a root set of objects from the linked set of object pointer

structures ;

identifying all objects referenced directly or indirectly by the root set objects; and

reclaiming the memory space not used by the identified objects.

41. (Previously presented) The method of claim 40, further comprising:

storing a variable referencing to the last stored object pointer;

using the variable when storing a new object pointer; and

updating the variable with the new object pointer reference.

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42. (Previously presented) The method of claim 40, further comprising:

compacting the identified set of objects so that they are contiguous and updating all

object references in the stack.

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